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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1.   (Currently amended): A data transformation system comprising:

a computing device;

a data interface on the computing device configured to receive data to be transformed or to send transformed data;

memory configured to store one or more transform process definitions having at least one simple transform definition and at least one compound transform definition;

an application including computer instructions; and

a data interpreter configured to exchange data with the data interface and the application, the data interpreter including a transform engine configured to

select a first compound transform definition from the one or more transform process definitions, the selected first compound transform definition including a hierarchical data structure with a first sub-definition,

invoke a first parallel processing thread to process the first compound transform definition including the first sub-definition,

select a second compound transform definition from the one or more transform process definitions, the selected second compound transform definition including a hierarchical data structure with a second sub-definition,

invoke a second parallel processing thread to process the second compound transform definition including the second sub-definition,

concurrently navigate the selected first compound transform definition, the selected second compound transform definition, and the data to be transformed using the parallel processing threads, navigation within the data to be transformed being responsive to transform definitions within the selected first and second transform definitions, and

24   generate an output data file having a data structure responsive to a data structure

25   of the selected first and second compound transform definitions.

1   2.   (Original): The data transformation system of claim 1, wherein the

2   transformation engine is further configured to process the at least one compound transform

3   definition using recursion.

1   3.   (Original): The data transformation system of claim 1, wherein the data

2   interpreter is further configured to support a plurality of applications.

1   4.   (Original): The data transformation system of claim 1, wherein the

2   application is a database application, accounting application, human resources application,

3   customer management application, inventory application, or an internet application.

1   5.   (Original): The data transformation system of claim 1, wherein the

2   application and the data interpreter are integrated.

1   6.   (Original): The data transformation system of claim 1, wherein the data

2   interpreter further includes a computing device configured to support the transform engine.

1   7.   (Currently amended): A data interpreter configured to transform data to

2   be transformed, the data interpreter comprising:

3   at least one computing device; and

4   a transform engine supported by the computing device, the transform engine

5   being configured to

6   access a transform process definition including a hierarchical data structure of

7   transform definitions, the data structure including a simple transform definition, a first compound

8   transform definition having a first sub-definition, and a second compound transform definition

9   having a second sub-definition,

10   invoke a first parallel processing thread to process the first compound transform

11   definition including the first sub-definition,

12   invoke a second parallel processing thread to process the second compound

13 transform definition including the second sub-definition,

14   concurrently navigate the first compound transform definition, the second

15 compound transform definition, and the data to be transformed using the parallel processing

16 threads, navigation within the data to be transformed being responsive to the first and second

17 compound transform definitions within the transform process definition, and

18   generate an output data file having a data structure responsive to the first and

19 second compound transform definitions.

1   8.   (Currently amended): The data interpreter of claim 7, wherein the data

2 structure of the output data file is responsive to a structure of transform process definition.

1   9.   (Original): The data interpreter of claim 7, wherein the transform engine

2 is configured to process the compound transform definition using recursion.

1   10.   (Original): The data interpreter of claim 7, wherein the transform engine

2 is configured to generate output data including data elements characterized by the transform

3 process definition and having no contribution from the data to be transformed.

1   11.   (Original): The data interpreter of claim 7, wherein the transform process

2 definition is configured such that some data elements in the data to be transformed do not make a

3 contribution to the output data.

1   12.   (Previously presented): The data interpreter of claim 7, wherein the

2 transform engine is further configured to navigate the data to be transformed responsive to the

3 data structure of the transform definitions within the transform process definition.

1   13.   (Original): The data interpreter of claim 7, wherein the transform engine

2 is further configured to navigate the data to be transformed responsive to content of the

3 transform definitions.

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1   14.   (Currently amended): A method of transforming data using an application
2 programming interface, the method comprising:
3   receiving data to be transformed at the application programming interface;
4   parsing identification data within the data to be transformed, the identification
5 data characterizing the data to be transformed;
6   using the identification data to select a first compound transform definition from a
7 set of one or more transform process definitions, the selected first compound transform definition
8 having a first sub-definition and defining a process of translating data elements within the data to
9 be transformed to output data elements;
10   invoking a first parallel processing thread to process the first compound transform
11 definition including the first sub-definition;
12   using the identification data to select a second compound transform definition
13 from the set of one or more transform process definitions, the selected second compound
14 transform definition having a second sub-definition and defining a process of translating data
15 elements within the data to be transformed to output data elements;
16   invoking a second parallel processing thread to process the second compound
17 transform definition including the second sub-definition; and
18   transforming the data to be transformed to an output data file, using a
19 transformation engine and the selected first and second compound transform definitions, a data
20 structure of the output data being responsive to a data structure of the first and second compound
21 transform definitions.

1   15.   (Original): The method of claim 14, wherein transforming the data to be
2 transformed includes nesting of data records.

1   16.   (Previously presented): The method of claim 14, wherein transforming
2 the data to be transformed includes calling a transformation process recursively responsive to a
3 compound transform definition in the selected first transform definition.

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1   17.   (Previously presented): The method of claim 14, wherein the selected first

2 and second transform definitions are selected based on information within the identification data

3 that identifies a destination of the data to be transformed.

1   18.   (Previously presented): The method of claim 14, wherein the first and

2 second transform definitions are selected based on information within the identification data that

3 identifies a format of the output data.

1   19.   (Original): The method of claim 14, wherein the transform process

2 definition includes a extensible markup language (XML).

1   20.   (Currently amended): A method of transforming data using an application

2 programming interface, the method comprising:

3   receiving data to be transformed at the application programming interface, the

4 data to be transformed including identification data;

5   using the identification data to select a first compound transform definition from a

6 set of transform process definitions, the selected first compound transform definition having a

7 first sub-definition and defining a process of translating data elements within data to be

8 transformed to output data elements;

9   invoking a first parallel processing thread to process the first compound transform

10 definition including the first sub-definition;

11   using the identification data to select a second compound transform definition

12 from the set of one or more transform process definitions, the selected second compound

13 transform definition having a second sub-definition and defining a process of translating data

14 elements within the data to be transformed to output data elements;

15   invoking a second parallel processing thread to process the second compound

16 transform definition including the second sub-definition; and

17   transforming the data to be transformed to an output data file by concurrently

18 navigating the data to be transformed, the first compound transform definition, and the second

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19 compound transform definition using the parallel processing threads, navigation in the data to be

20 transformed being responsive to the transform process definition.

1   21.   (Previously presented): The method of claim 20, wherein the selected first

2 and second compound transform definitions are selected based on information within the

3 identification data that identifies a format of the data to be transformed.

1   22.   (Previously presented): The method of claim 20, wherein the selected first

2 and second compound transform definitions are selected based on information within the

3 identification data that identifies a source of the data to be transformed.

1   23.   (Original): The method of claim 20, wherein the application programming

2 interface is shared by several applications.

1   24.   (Previously presented): The method of claim 20, wherein the application

2 programming interface is shared by several applications and the selected first and second

3 compound transform definitions are selected based on an identity of one of the several

4 applications.

1   25.   (Currently amended): The method of claim 20, wherein a structure of the

2 output data file is responsive to a structure of a transform definition included in the selected first

3 and second compound transform definitions.

1   26.   (Original): The method of claim 20, wherein transforming the data to be

2 transformed includes nesting of data records.

1   27.   (Original): The method of claim 20, wherein transforming the data to be

2 transformed includes filtering of data records.

1   28.   (Previously presented): The method of claim 20, wherein transforming

2 the data to be transformed includes calling a transformation process recursively responsive to a

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3   data structure of a transform definition included in the selected first and second compound

4   transform definitions.

1   29.   (Original): The method of claim 20, wherein transforming the data to be

2   transformed includes searching the data to be transformed for a data field specified in a

3   transform definition included in the transform process definition.

1   30.   (Original): The method of claim 20, wherein the transform definition

2   includes a translation codeset parameter configured to invoke an external reference.

1   31.   (Original): The method of claim 20, wherein the transform definition

2   includes a translation codeset parameter configured to invoke an external reference, the external

3   reference being configured to perform logic operations using the data to be transformed.

1   32.   (Currently amended): A method of transforming data, the method

2   comprising:

3   positioning a definition pointer to point at a first compound transform definition

4   within a transform process definition;

5   invoking a first parallel processing thread to read the pointed at first compound

6   transform definition;

7   searching data to be transformed for a data element to be transformed, the search

8   being responsive to the first compound transform definition;

9   transforming any found data element into an output data file, responsive to the

10   first compound transform definition, a data structure of the output data file being responsive to a

11   data structure of the transform process definition;

12   positioning a definition pointer to point at a second compound transform

13   definition within the transform process definition;

14   invoking a second parallel processing thread to read the pointed at second

15   compound transform definition;

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16   searching data to be transformed for another data element to be transformed, the

17   search being responsive to the second compound transform definition; and

18   transforming any found data element into the output data file, responsive to the

19   second compound transform definition, the data structure of the output data file being responsive

20   to the data structure of the transform process definition,

21   wherein the read first compound transform definition includes a translation

22   codeset parameter enabling the transforming to include a call to one of a function or a lookup

23   table located in the first compound transform definition.

1   33.   (Previously presented): The method of claim 32, further including

2   determining a type of the read first compound transform definition and, if the first compound

3   transform definition is not a simple transform definition type, recursively calling the method of

4   claim 32.

1   34.   (Original): The method of claim 32, further including determining if all

2   sub-definitions of a compound transform definition have been processed.

1   35.   (Original): The method of claim 32, wherein the method of transforming

2   data includes nesting of a data element.

1   36.   (Currently amended): The method of claim 32, further including, if no

2   data element is found in either step of searching data to be transformed, adding an output data

3   element to the output data file responsive to the read first compound transform definition, the

4   data to be transformed having no contribution to the output data element.

1   37.   (Currently amended): The method of claim 32, wherein the read first

2   compound transform definition includes a value parameter configured to specify a value for

3   inclusion in the output data file.

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1   38.   (Original): The method of claim 32, wherein the data element is a
2 compound data element and the read transform definition includes a source record parameter
3 configured to specify the compound data element.

1   39.   (Previously presented): The method of claim 32, wherein the read first
2 compound transform definition is in a meta-language format.

1   40.   (Original): The method of claim 32, wherein the data to be transformed
2 data is in a meta-language data format.

1   41.   (Previously presented): The method of claim 32, wherein the read first
2 compound transform definition includes a transform element having an output field name and a
3 source field parameter.

1   42.   (Currently amended): The method of claim 32, wherein the read first
2 compound transform definition includes a value parameter configured to populate a field in the
3 output data file.

1   43.   (Canceled)

1   44.   (Currently amended): A method of transforming data, the method
2 comprising:
3   positioning a definition pointer to point at a first compound transform definition,
4 the first compound transform definition being within a transform process definition;
5   invoking a first parallel processing thread to read the pointed at first compound
6 transform definition and sub-definitions of the first compound transform definition;
7   positioning a first payload pointer to point at a data element to be transformed, the
8 positioning being responsive to a data structure of the first compound transform definition;
9   transforming the data element into an output data file, responsive to the read first
10 compound transform definition;

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11   positioning the definition pointer to point at a second compound transform

12   definition, the second compound transform definition being within the transform process

13   definition;

14   invoking a second parallel processing thread to read the pointed at second

15   compound transform definition and sub-definitions of the second compound transform

16   definition;

17   positioning a second payload pointer to point at a data element to be transformed,

18   the positioning being responsive to a data structure of the second compound transform definition;

19   and

20   transforming the second data element into the output data file, responsive to the

21   read second compound transform definition.

1   45.   (Previously presented): The method of claim 44, further including

2   determining a type of the read first compound transform definition and, if the read first

3   compound transform definition is not a simple transform definition type, recursively calling the

4   method of claim 44.

1   46.   (Previously presented): The method of claim 44, further including

2   determining a type of the read first compound transform definition and, if the read first

3   compound transform definition is not a simple transform definition type, recursively calling the

4   method of claim 44, wherein the recursive call is responsive to the data structure of the transform

5   process definition.

1   47.   (Previously presented): The method of claim 44, further including

2   determining a type of the read first compound transform definition, if the read transform

3   definition is not a simple transform definition type recursively calling the method of claim 44,

4   and determining if all sub-elements of a compound element have been transformed.

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1   48.   (Original): The method of claim 44, further including determining if all
2 sub-elements of a compound element have been transformed and, if the determination returns a
3 value of YES, returning to a calling process.

1   49.   (Canceled)

1   50.   (Original): The method of claim 44, wherein the method of transforming
2 data includes un-nesting of the data element to be transformed.

1   51.   (Previously presented): The method of claim 44, wherein the read first
2 compound transform definition includes a source field parameter configured to specify the data
3 element.

1   52.   (Previously presented): The method of claim 44, wherein the read first
2 compound transform definition includes a source record parameter configured to specify the
3 compound data element.

1   53.   (Previously presented): The method of claim 44, wherein the read first
2 compound transform definition includes a translation codeset configured for calling computer
3 instructions including logic operations.

1   54.   (Original): The method of claim 53, wherein the computer instructions are
2 configured to call an external process.

1   55.   (Original): The method of claim 44, further including a step of combining
2 the data element with the transform process definition prior to transforming the data element to
3 output data.

1   56.   (Original): The method of claim 44, wherein the transform process
2 definition includes a tree data structure.

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1   57.   (Currently amended): A method of preparing data for transformation, the

2 method comprising:

3   receiving data to be transformed;

4   parsing the received data to determine identification information;

5   invoking a parallel processing thread to use the identification information to

6 extract a first compound transform definition from a plurality of transform process definitions,

7 the extracted first compound transform definition including a transform definition configured to

8 transform the data to be transformed, to direct navigation within the data to be transformed

9 during transformation, and to determine a data structure of an output data file resulting from

10 transformation of the data to be transformed, the first compound transform definition being

11 configured to generate a compound data element in the output data file;

12   invoking a parallel processing thread to use the identification information to

13 extract a second compound transform definition from the plurality of transform process

14 definitions, the extracted second compound transform definition including a transform definition

15 configured to transform the data to be transformed, to direct navigation within the data to be

16 transformed during transformation, and to determine the data structure of the output data file

17 resulting from transformation of the data to be transformed, the second compound transform

18 definition being configured to generate a compound data element in the output data file; and

19   adding the extracted transform process definition to meta-language transform

20 input data including the data to be transformed.

1   58.   (Original): The method of claim 57, wherein the extracted transform

2 process definition is in a meta-language format.

1   59.   (Previously presented): A computer readable storage media having

2 embodied thereon data, the data comprising:

3   computer instructions configured to position a definition pointer to point at a first

4 compound transform definition, the first compound transform definition being within a transform

5 process definition;

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6   computer instructions configured to invoke a first parallel processing thread to

7   read the pointed at first compound transform definition and sub-definitions of the first compound

8   transform definition;

9   computer instructions configured to increment a first payload pointer, within the

10   data to be transformed, to a data element to be transformed, the incrementation being responsive

11   to the pointed at first compound transform definition;

12   computer instructions configured to transform any found data element into an

13   output data file, responsive to the first compound transform definition;

14   computer instructions configured to increment a second payload pointer, within

15   the data to be transformed, to a data element to be transformed, the incrementation being

16   responsive to the pointed at second compound transform definition;

17   computer instructions configured to invoke a second parallel processing thread to

18   read the pointed at second compound transform definition and sub-definitions of the second

19   compound transform definition; and

20   computer instructions configured to transform the second data element into the

21   output data file, responsive to the read second compound transform definition.

1   60.   (Original): The computer readable media of claim 59, wherein the data

2   further comprises computer instructions configured to employ recursion to transform a

3   compound data element within the data to be transformed.

1   61.   (Original): The computer readable media of claim 59, wherein the data

2   further comprises computer instructions configured to transform the data to be transformed using

3   parallel processes.

1   62.   (Currently amended): A computer readable storage media having

2   embodied thereon data, the data comprising:

3   payload data including data to be transformed, the data to be transformed

4   including metadata characterizing simple data elements and compound data elements; and

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5   a transform process definition including a first and a second compound transform

6   definition configured to transform the data to be transformed, to direct navigation within the data

7   to be transformed during transformation, and to determine a data structure of an output data file

8   resulting from the transformation, the first compound transform definition also including a

9   pointer to a function enabled to perform logical operations on the data to be transformed during

10   transformation and generate the output data, the first compound transform definition being

11   configured to generate a compound data element in the output data file using parallel processing

12   threads configured to navigate the first and second compound transform definitions concurrently.

1   63.   (Original): The computer readable media of claim 62, wherein the

2   computer readable media includes memory included in a data interface.

1   64.   (Original): The computer readable media of claim 62, wherein the

2   computer readable media includes a hard drive.

1   65.   (Currently amended): An application system comprising:

2   a computing device;

3   means for positioning a definition pointer to point at a first compound transform

4   definition within a transform process definition;

5   means for invoking a first parallel processing thread to read the first compound

6   transform definition by the computing device;

7   means for positioning the definition pointer to point at a second compound

8   transform definition within the transform process definition;

9   means for invoking a second parallel processing thread to read the second

10   compound transform definition by the computing device;

11   means for positioning a payload pointer to point to a first data element, the first

12   data element being a member of a plurality of data elements within data to be transformed; and

13   means for generating an output data file using the first data element and the first

14   and second compound transform definitions;

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15   wherein the means for positioning the definition pointer and the means for

16   positioning the payload pointer are enabled to be invoked concurrently.

1   66.   (Original): The application system of claim 65, further including means

2   for selecting the transform process definition from a set of transform process definitions,

3   responsive to data associated with the data to be transformed.

1   67.   (Original): The application system of claim 65, wherein a second data

2   element has no contribution to output data generated using the transform process definition, the

3   second data element being a member of the plurality of data elements.

            68.   (Currently amended): The application system of claim 65, further including means for adding data to the output data file, the added data being configured responsive to the transform process definition and having no contribution from the data to be transformed.